What are the indications for an FNA of a thyroid nodule discovered by an imaging study?

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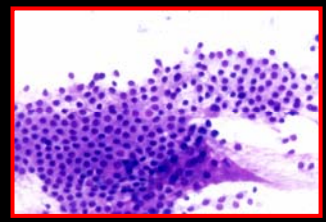


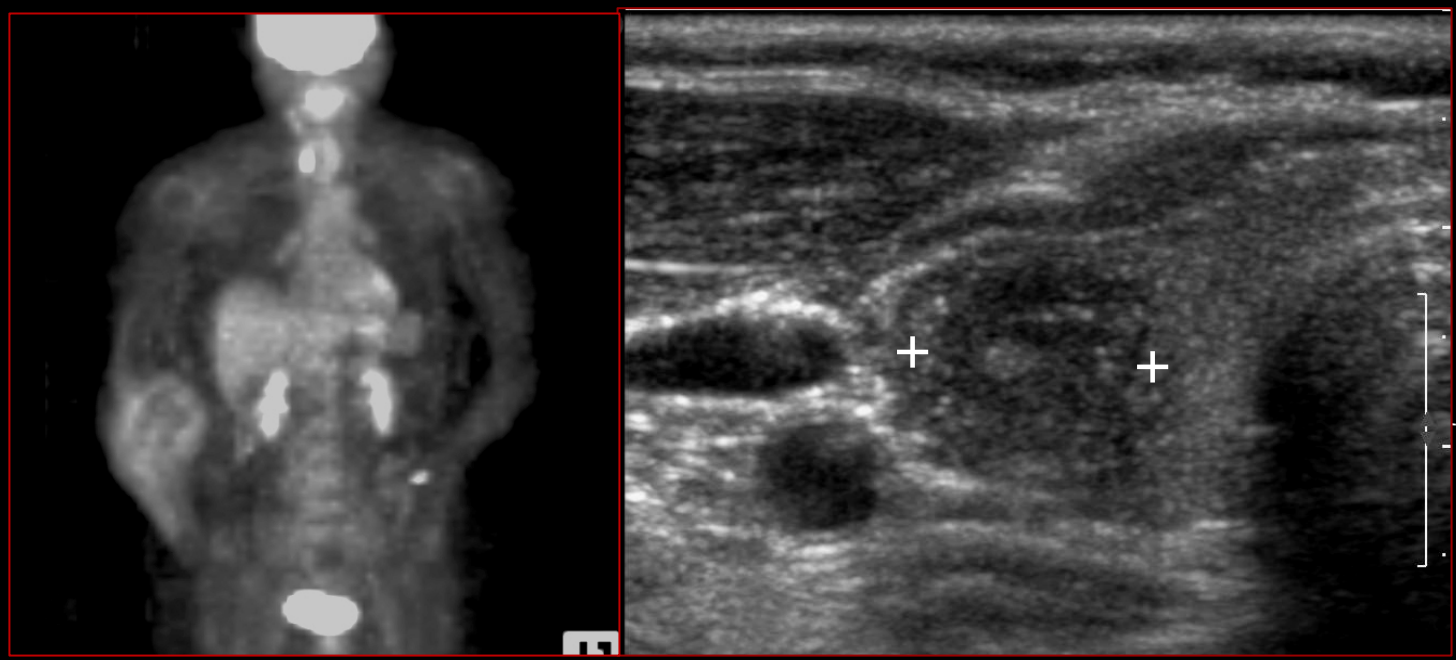
Definition of an incidental nodule

- A nodule detected on some type of imaging study that has not previously been detected clinically
- Clinical detection depends on:
  - whether a physical exam has been done
  - expertise of the person doing the exam
  - size and mobility of the neck
  - location and size of the nodule
- Questionable validity of dividing nodules into palpable and nonpalpable

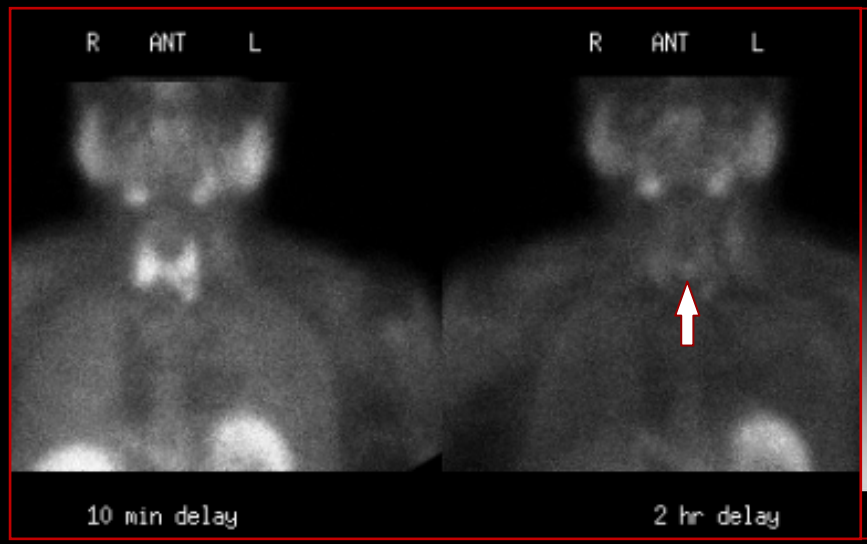
Not feasible or advisable to perform FNA on all incidentalomas

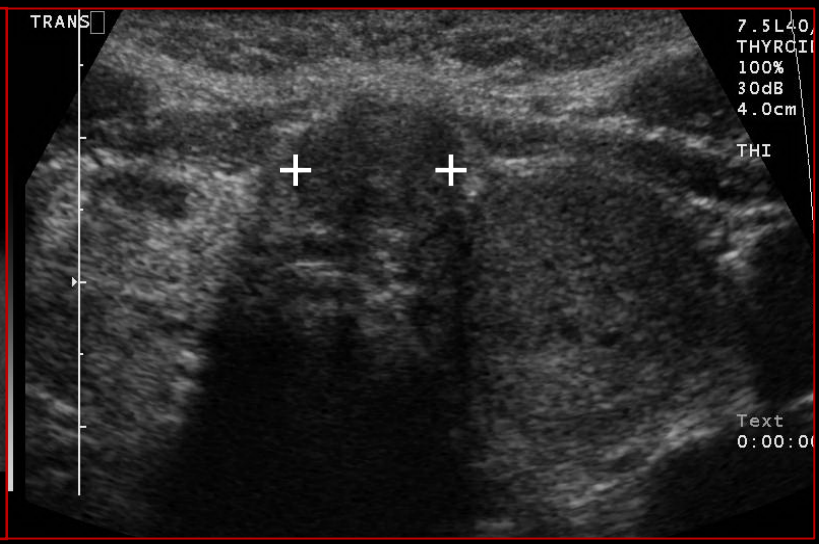
- Too many.
- Costs and strain on the medical system too great.
- Needless surgery on many benign lesions.
- Goal?
- Avoid FNA as much as possible on nodules likely to be benign. Maximize the number of malignant nodules dx'ed.
- PET, sestamibi, CT/MRI, ultrasound

PET: All focal PET-positive lesions should undergo FNA

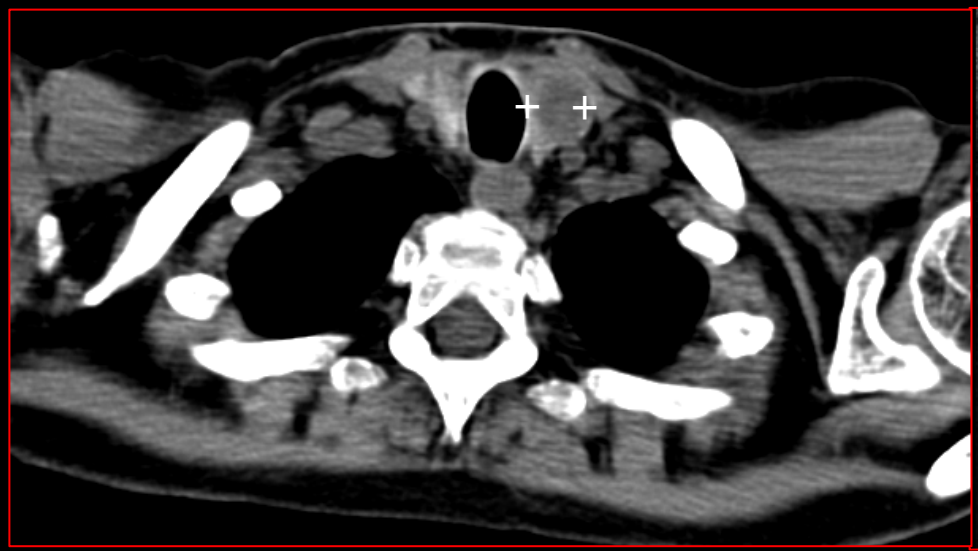


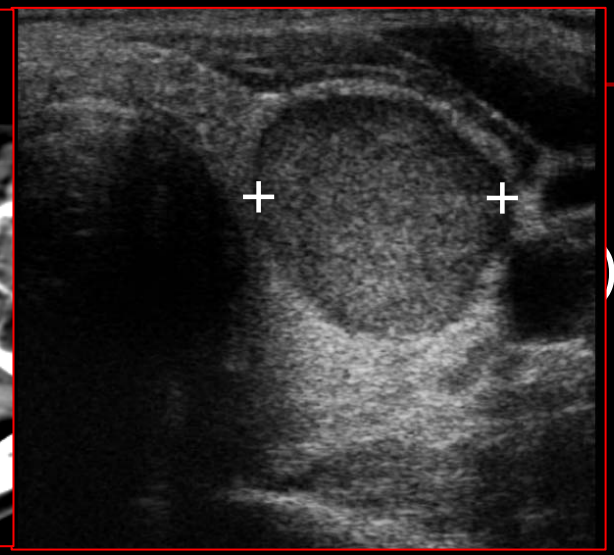
Sestamibi: All hot nodules detected on sestamibi scans should undergo FNA





CT, MRI: Until more data are available, incidentalomas seen on CT or MRI should undergo dedicated thyroid sonographic evaluation. Only lesions with mean diameter greater than 1.5 cm or "suspicious" features on sonography should undergo FNA.





Academy of Clinical Thyroidologists:

Position Paper on FNA for Non-palpable Thyroid Nodules, 2006

thyroidologists.com/papers.html

- FNA regardless of size or sonographic appearance all nodules in patients with clinical risk factors:
  - XRT to neck during childhood
  - Family hx of thyroid cancer (pap or med)
  - Previous surgery for thyroid cancer with remaining lobe

- FNA hypoechoic nodule >5 mm* if suspicious US findings**
- FNA all nodules 20 mm* or greater in size (unless hot on thyroid scan)
- FNA most nodules between 10 – 20* mm
  - clinical risk factors strongly favor FNA
  - US features (hyperechoic, comet tails) may be used to delay FNA

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* not defined as max, min, or mean.

** susp. US features: blurred margins, intranodular vascularity, microcalcs, AP>trans diam, susp neck nodes

American Thyroid Association Guidelines Taskforce:

Management Guidelines for Patients with Thyroid Nodules and Differentiated Thyroid Cancer
Thyroid 2006; 16:109-141

- FNA nodules <10 mm max diam if susp US features*, hx neck XRT, or + fam hx.
- FNA nodules >10-15 mm max diam regardless of clinical or US features unless functional on thyroid scan.
- In MNG, FNA nodule/s >10-15 mm if suspicious US features, o/w FNA dominant nodule.

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* susp US features: blurred margins, intranodular vascularity, taller than wide, microcalcs, abnl neck nodes

American Association of Clinical Endocrinologists and Associazione Medici Endocrinologi:

Medical Guidelines for Clinical Practice for the Diagnosis and Management of Thyroid Nodules

Endocrine Practice, 2006; 12:63-102

- For incidental thyroid nodules (Fig. 2)
  - FNA nodules <10mm* if susp US features or + clinical risk factors
  - FNA all nodules >10mm*
- Table 4
  - FNA all nodules (including <10mm*) with susp US features** or clinical risk factors
  - FNA should be based on US features
  - Incidentalomas should be followed with US in 6-12 months and regularly thereafter

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* not defined as max, min or mean

** susp US features include hypoechoic nodules with irreg margins, chaotic intranodular vascular spots, more tall than wide, or microcalcs

Society of Radiologists in Ultrasound

Consensus Conference Statement:
Management of Thyroid Nodules Detected at Sonography

Radiology 2005; 237:794-800.

- No recommendations for nodules <10 mm max diam.
- FNA should be strongly considered for nodules >10 mm max diam with microcalcs.
- FNA should be strongly considered for solid nodules > 15 mm with coarse calcs.
- FNA should be considered for mixed solid/cystic nodules and cystic nodules with mural nodule if >20 mm max diam.
- Abnormal nodes overrides US features and should prompt FNA of node and/or thyroid nodule.

Conclusions (US Incidentaloma):

Any nodule with suspicious US features should be considered for FNA. Lesions with mean diameter larger than 1.0-1.5 cm should also be considered for FNA

- 10% (0-29%) risk of malignancy in US incidentalomas.
- Should undergo dedicated thyroid US evaluation.
- Sonographically suspicious features include:
  - microcalcifications
  - hypoechoic solid nodules
  - irregular/lobulated margins
  - intra-nodular vascularity
- nodal metastases (or extracapsular spread)

Discussion